

Listing of Claims

1. (Currently Amended) A repeater remote control system, in a mobile communication system comprising:

a server that controls at least one repeater through packet data transmissions sent through a mobile IP network; and

a data terminal unit that establishes a first link between said repeater and the server through a the mobile communication IP network, wherein the data terminal unit sends information indicative of an operational state of said repeater to the server through the mobile communication IP network and wherein the server sends commands to the data terminal unit through the mobile IP network for correcting a malfunction of the repeater in response to said operational state information.

2. (Currently Amended) The system of claim 1, wherein ~~the data terminal unit establishes a second link~~ is established between said repeater and the server by interworking with the a mobile IP communication network.

3. (Canceled)

4. (Currently Amended) The system of claim 1, wherein said packet data transmissions are sent using an LGE Protocol 2 format ~~include an SMS message~~.

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5. (Currently Amended) The system of claim 1, wherein the server sends said packet data transmissions to said repeater by matching with an IWF (InterWorking Function) within the mobile IP communication network.

6. (Original) The system of claim 1, wherein the data terminal unit is controlled according to an IS-707 standard.

7. (Currently Amended) A repeater remote control method in a mobile communication system, comprising:

establishing a first link between a server and a data terminal unit through a mobile communication network and a second link between the server and the data terminal unit through a mobile IP network;

transmitting, through the second link, packet data for correcting a malfunction of a repeater from the server to the data terminal unit through the mobile IP network; and

sending, through the first link, the packet data indicative of an operational state of said repeater from the data terminal unit to the server ~~said repeater using the second link~~ established through the mobile communication IP network, wherein the packet data for correcting said malfunction is transmitted though the mobile IP network to the data terminal unit in response to transmission of the packet data indicative of said operational state of the repeater through the mobile communication network.

8. (Original) The method of claim 7, wherein said establishing the first link comprises:

checking whether the data terminal unit is in a normal state, said checking performed by the repeater;

if the data terminal unit is in the normal state, transmitting server connection information from the repeater to the data terminal unit;

conducting a procedure for approval of connection with the server through the mobile communication network based on the server connection information; and

receiving a message indicating the server connection approval and transmitting the received message to the repeater.

9. (Currently Amended) The method of claim 8, wherein server connection information comprises at least one of a phone number, an IP address, or ~~and~~ server port information of the server to be connected.

10. (Previously Presented) The method of claim 7, further comprising:
checking a version of control software embedded in the repeater; and
updating the repeater with a new version of the control software transmitted from the server to the data terminal unit through the mobile IP network.

11. (Original) The method of claim 7, further comprising:

checking whether a disconnection request has been sent from the server, said checking performed by the repeater; and

if no disconnection request has been sent, unless there is data transmission with the server during a standby time, automatically disconnecting at least one of the first link and second link.

12. (Original) The method of claim 11, wherein said automatic disconnection comprises:

after the disconnection, checking whether data exists that has not yet been transmitted to the server from the repeater, said checking being performed by the repeater; and
if such data exists, sending a connection request again to the server.

13. (Currently Amended) A repeater remote control method in a mobile communication system comprising:

establishing a link between a repeater and a server through data terminal equipment;

selecting a management mode; and

transmitting packet data from the server to the repeater through a mobile IP network including the link based on the selected management mode, wherein the data terminal equipment sends information indicative of operation of the repeater to the server through the

mobile communication IP network and wherein the server sends commands to the data terminal equipment through the mobile IP network for correcting a malfunction of the repeater in response to said operation information.

14. (Original) The method of claim 13, wherein establishing the link includes transmitting at least one SMS message within the mobile communication network.

15. (Original) The method of claim 13, wherein establishing the link includes transmitting a wireless modem ring signal upon matching with an IWF (InterWorking Function) within the mobile communication network.

16. (Original) The method of claim 13, wherein establishing the link comprises:
checking an ID and connection state of the repeater by loading a stored repeater management table; and

if the link has not been established with the repeater, establishing the link by transmitting an SMS message or ring signal to the data terminal equipment connected to the repeater.

17. (Original) The method of claim 16, wherein said repeater management table comprises one or more of the following: a repeater ID field, a data terminal phone number field, a connection state field, a connection ID field, a field of IPs assigned to the data terminal equipment, and a download status field.

18. (Previously Presented) The method of claim 13, further comprising:

collecting status information of the repeater connected to said data terminal equipment, and then reporting the status information to the server at an information report time, wherein said operation information includes the status information.

19. (Previously Presented) The method of claim 18, wherein the status information includes information indicative of a cause of an alarm occurring at the repeater and information relating to an internal location of the repeater when the alarm has occurred.

20. (Previously Presented) The method of claim 13, further comprising:

collecting information required for repeater management and remote control, and reporting the information to the server at an information report time.

21. (Previously Presented) The method of claim 20, wherein the collected information indicates at least one of whether the repeater is in operation or a version of control software in the repeater, wherein the operation information includes the collected information.

22. (Original) The method of claim 13, further comprising:

checking whether a disconnection request has been sent from the repeater, said checking performed by the server; and

if no disconnection request has been sent, unless there is packet data transmission or receipt to or from the repeater within a certain standby time, automatically disconnecting the link.

23. (Currently Amended) A method for controlling a repeater, comprising:

establishing a first link between a server and the repeater, at least a portion of the first link being established over a mobile IP network;

transmitting information between the server and the repeater over the first link,

wherein information indicative of an operational state of the repeater is transmitted to the server through a second link which passes through a mobile communication network at least the mobile IP network portion of the first link and wherein the server sends commands to the repeater through the first link which passes through at least the mobile IP network ~~portion of the first link~~ for correcting a malfunction of the repeater in response to said operational state information.

24. (Original) The method of claim 23, wherein the repeater initiates establishing the first link.

25. (Canceled)

26. (Original) The method of claim 23, wherein the control information is transmitted in a format which complies with an IS-707 standard.

27. (Original) The method of claim 23, wherein the first link is established at a time of initial operation of the repeater.

28. (Original) The method of claim 23, wherein the first link is established after a disorder occurs in the repeater.

29. (Original) The method of claim 23, wherein the first link is established after a determination is made that the repeater has data to transmit to the server.

30. (Original) The method of claim 23, further comprising:
determining whether a version of control software in the repeater is outdated; and
updating the repeater with new control software.
31. (Original) The method of claim 23, wherein the updating step includes:
transmitting the new control software from the server to the repeater over the first link.
32. (Original) The method of claim 23, further comprising:
disconnecting the first link when a disconnection request is issued.

33. (Original) The method of claim 23, further comprising:

checking whether data has been transmitted between the server and repeater within a predetermined standby time; and
automatically disconnecting the first link when no data has been transmitted during the standby time.

34-37 (Canceled)